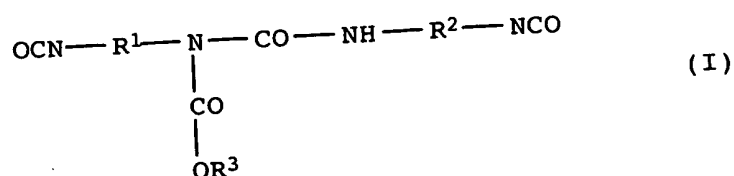


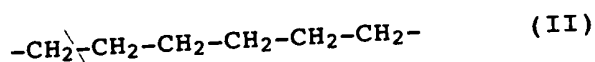
We claim:

1. A mixture comprising  
 5 - diisocyanates of the formula (I)



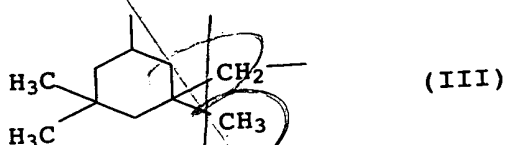
in which the radicals have the following meanings:

15  $\text{R}^1, \text{R}^2$ : both radicals a radical of the formula (II)



20 (diisocyanates Ia)

one radical of the formula (II) and the other radical a radical of the formula (III)

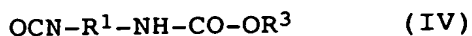


25 (diisocyanates Ib)

30  $\text{R}^3$ : - a 5- or 6-membered cycloalkyl radical in which up to 3 hydrogen atoms may be substituted by  $\text{C}_1$ - $\text{C}_4$ -alkyl radicals and one or two methylene units may be substituted by an oxygen atom and/or a tertiary nitrogen atom which additionally carries a  $\text{C}_1$ - $\text{C}_4$ -alkyl radical, or

35 - a  $\text{C}_1$ - $\text{C}_4$ -alkyl radical in which one hydrogen atom is substituted by a 5- or 6-membered cycloalkyl radical in which up to 3 hydrogen atoms may be substituted by  $\text{C}_1$ - $\text{C}_4$ -alkyl radicals and one or two methylene units may be substituted by an oxygen atom and/or a tertiary nitrogen atom which additionally carries a  $\text{C}_1$ - $\text{C}_4$ -alkyl radical; a pyrrolidone radical or a morpholine radical, where in the case of the two last-mentioned radicals the nitrogen atom is attached to the alkyl radical

- urethanes of the formula (IV)

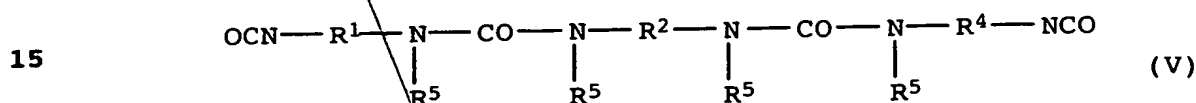


5 in which the radicals  $\text{R}^1$  and  $\text{R}^3$  may have the following meanings:

$\text{R}^1$ : a radical of the formula (II) or (III)

10  $\text{R}^3$ : the meaning indicated in claim 1;

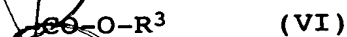
- diisocyanates of the formula (V)



in which the radicals  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^4$  and  $\text{R}^5$  may have the following meanings:

20  $\text{R}^1$ ,  $\text{R}^2$ ,  $\text{R}^4$ : the meaning indicated for  $\text{R}^1$  in formula (I),

25  $\text{R}^5$ : 2 of the total of 4 radicals are hydrogen and the other two radicals are a radical of the formula (VI)



30 with the radicals  $\text{R}^5$  having the same meaning being separated by the unit  $\text{R}^2$ ; and

- isocyanurates composed of 3 molecules selected from the group consisting of isophorone diisocyanate and hexamethylene diisocyanate (monoisocyanurates VII),

35 where the weight ratio of diisocyanates (I) to monoisocyanurates (VII) is from 10:1 to 1:10.

40 2. <sup>The</sup> A mixture as claimed in claim 1, in which the radical  $\text{R}^3$  is derived from an alcohol selected from the group consisting of cyclohexanol, cyclohexanemethanol, cyclopentanol, cyclopentanemethanol, 3,3,5-trimethylcyclohexanol, menthol, norborneol, N-methyl-4-hydroxypiperidine, 4-(2-hydroxyethyl)-morpholine and 4-(2-hydroxyethyl)pyrrolidone.

45

3. <sup>The</sup> A mixture as claimed in claim 1 ~~or 2~~, where the proportion of isophorone diisocyanate or hexamethylene diisocyanate is less than 0.5% by weight.

5 4. <sup>The</sup> A mixture as claimed in <sup>Claim 1</sup> ~~any of claims 1 to 3~~, where the sum of the proportions of the diisocyanates (Ia), (Ib), (Ic), (V), the urethane (IV) and the isocyanurate (VII) is from 10 to 100% by weight.

10 5. <sup>The</sup> A process for preparing a mixture as claimed in <sup>Claim 1</sup> ~~any of claims 1 to 4~~, which comprises reacting

(i) isophorone diisocyanate, hexamethylene diisocyanate or a mixture of these isocyanates in the presence of a catalyst with a

- 5- or 6-membered cycloaliphatic alcohol in which up to 3 hydrogen atoms attached to one carbon atom may be substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl radicals and one or two methylene units may be substituted by an oxygen atom and/or a tertiary nitrogen atom which additionally carries a C<sub>1</sub>-C<sub>4</sub>-alkyl radical, or

- C<sub>1</sub>-C<sub>4</sub>-alkyl alcohol in which one hydrogen atom attached to a carbon atom is substituted by a 5- or 6-membered cycloalkyl radical in which up to 3 hydrogen atoms may be substituted by C<sub>1</sub>-C<sub>4</sub>-alkyl radicals and one or two methylene units may be substituted by an oxygen atom and/or a tertiary nitrogen atom which additionally carries a C<sub>1</sub>-C<sub>4</sub>-alkyl radical; a pyrrolidone radical or morpholine radical, where in the case of the two last-mentioned radicals the nitrogen atom is attached to the alkyl radical of the alcohol;

the molar ratio of said isocyanates to said monoalcohol being from 1.5:1 to 20:1,

(ii) deactivating the catalyst and

(iii) removing any unreacted isocyanate.

6. <sup>The</sup> A process as claimed in claim 5, wherein the reaction is continued until the resulting reaction product after removing any unreacted isophorone diisocyanate or hexamethylene

diisocyanate still present has a viscosity of from 100 to 10,000 mPas measured in accordance with ISO 3219, Annex B.

7. A two-component coating composition comprising a compound which carries polyisocyanate-reactive groups (component A) and a mixture as claimed in claim 1 (I) (component B).

8. A method of coating articles which comprises

- 10 - preparing a coating composition as claimed in claim 7 by mixing components (A) and (B) and
- 15 - applying the coating composition in sheetlike manner to an article within 12 h of the preparation of said composition.

9. A coated article produced as claimed in claim 8.

20

add  
B2

25

Add C1  
add  
D1

30

35

40

45